Form 60

Superseder No. 25

First LIGHTHOUSE DISTRICT

DEPARTMENT OF COMMERCE
LIGHTHOUSE SERVICE

DESCRIPTION

OF

ISLES OF SHOALS

LIGHT STATION

State: New Hampshire

Corrected to May 1 19X 35

1914

DESCRIPTION OF LIGHT STATION.

1. By whom described Thomas Sampson, Asst. Superintendent, date May 1, 1935

STATION.

2. Name of station, Isles of Shoals

3. Characteristic of light, Flashing White, 15 sec.; flash 3.7 sec., eclipse 11.3 sec.

4. Geographical position of light: Latitude, 42 ° 58 ' 02N."; longitude, 70 ° 37 ' 25W".

5. Location, On White Island, N. H., the southwesterly island of the Isles of Shoals, about 5½ miles of the seacoast of New Hampshire and southerly of the entrance to Portsmouth.

PREMISES.

6. Origin of title to site of station (public land, purchase, lease, military or naval reservation), Public land, conveyed by the State of New Hampshire

7. Date of reservation, deed, lease, or permission to occupy; Act June 20, 1820

8. Area of the entire site, 1 acre; (*b*) area inclosed, ---; (*c*) type of fence, ---

9. Distance of tower from nearest high-water mark, 40 ft.

10. Wharf or landing on premises, Boat house and slip

11. Means by which the light station may be reached and distance to nearest post office or town, with name, Boat

12. Tower or other means used for supporting the lantern and apparatus, Tower

13. Number of separate lights, One

14. When first built or established, 1821

LANTERN AND LANTERN FIXTURES—Continued.

35. Ventilator ball, Cast iron

36. Lightning-conductor spindle, Wrought iron--copper tip

37. Balustrade and outside gallery, Iron

38. Lantern doors, and how fitted, On sash bars

39. Floor of lantern—Of what materials, Cast iron

40. Watch-room door leading into lantern, and how fitted, Trap door in deck

VENTILATORS.

41. In parapet, wall, or lower part of lantern, In parapet and lantern

42. Lantern ladders for cleaning plate glass, outside, None

43. Curtain hooks inside of lantern—How fitted, On sash bars

WATCH ROOM.

44. How fitted, Revolving clock only

45. Bell wires, speaking tubes, or telephones for calling relief keepers—Kind, None

46. Where led,

ILLUMINATING APPARATUS, ETC.

47. Kind of apparatus, 2nd Order Droptric; intensity in English candles, 60,000

48. Name of maker, L. Sautter & Co.; year made, ---

49. Marks and number on apparatus, Paris

50. Order of apparatus, 2nd; inside diameter (inscribed circle, tangent to glass) of central drum, 4' 7 5/8"

51. **If the apparatus is a parabolic mirror,** state (*a*) diameter of opening, ; (*b*) depth of mirror, ; (*c*) its focal length, ; (*d*) material of which it is made,

52. **If revolving,** time of revolution, 5 minutes

(*a*) duration of white flash, 3.7 sec.; (*b*) duration of eclipse, 11.3 sec.

53. **If fixed,** or fixed varied by flashes, state arc of each fixed part in degrees, ;

(*a*) duration of fixed light, 3.7 sec.; (*b*) eclipse, 11.3 sec.; (*c*) flash, 3.7 sec.
One white flash every 15 sec.

PREMISES—Continued.

15. When last thoroughly rebuilt, repaired, or renovated, 1859

16. Height of focal plane of lantern above mean high water (on sea and gulf coasts) or mean lake level on northern lakes and rivers, 82 ft.

17. Background of the lighthouse, upon which it is projected, as seen from seaward, Sky

18. Color of tower, and how produced, White-whitewash

19. Tower—Connected with keeper's dwelling, and how; or detached, Detached

20. Purpose of aid—Seacoast, lake coast, bay, harbor, channel, or range; for general or local navigation, Seacoast

21. Materials of which the tower is built, Brick

22. Kind of stairway and steps, Iron

23. Size of glass for glazing tower windows, 8¼" x 13"

24. Number of windows in tower, and size of sash, Two--2' 8" x 15" - 2' 8" x 16"

25. Number and size of doors, One

26. General remarks upon tower and site,

LANTERN AND LANTERN FIXTURES.

27. Order or class of lantern, 2nd Order

28. If polygonal, state number of sides; if cylindrical, state diameter, Polygonal

29. Vertical or helical bars, Vertical; thickness of bars, 1¼"; height glazed, 8' 3"

30. Number of plates in height, 3; in each side, 3

31. Thickness and size of plates, ¼"

32. Unglazed side of lantern in plates and degrees of arc, One - 30°; between what bearings (true and from seaward), 180° - 210°

33. Materials of which the lantern is constructed, Cast iron

34. Roof, Cast iron

ILLUMINATING APPARATUS, ETC.—Continued.

54. Number of panels in the lens apparatus, 20

55. Number of flash panels, 20; arc of each, in degrees, 18°

56. Number of elements in each panel of central drum of lens, 13

57. Number of prisms in each panel *above* central drum of lens, 12; are they fixed or flash? Flash

58. Number of prisms in each panel *below* central drum of lens, 4; are they fixed or flash? Flash

59. How are the flashes produced—By the whole apparatus revolving Yes; by revolving belt only ; if by panels or vertical elements revolving outside of fixed lens, state the number of such panels,

60. **If by vertical elements,** state (*a*) the number in each panel, ; and (*b*) the number of elements of fixed lens covered by the panel,

61. **If light is occulting,** state (*a*) the characteristic,

(*b*) Between what time limits may characteristic be varied without structural changes in mechanism?

(*c*) Are eclipses produced by sleeve, revolving screens, or valve (if gaslight)?

(*d*) Size of sleeve and amplitude of movement,

(*e*) Axis of rotation of screens, horizontal or vertical, ; (*f*) relation of axis to vertical axis of illuminating apparatus,

(*g*) Do the screens revolve as parts, or independently, of illuminating apparatus?

(*h*) If about vertical axis, how many in circumference, ; (*i*) time required for complete revolution, ; (*j*) form, ;

(*k*) how mounted (see Questions 62–65), ;

(*l*) if actuated by clockwork, state order and maker, ;

(*m*) date made,

If occultation is effected by valve, state (*n*) name of maker, ;

(*o*) pattern, ;

(*p*) does it operate reliably?

62. **If revolving,** does the apparatus revolve on chariot wheels, mercury float, or balls? Chariot
Steel Chariot wheels--Ball bearing

63. **If a chariot,** describe it and state the number and size of each pattern of wheels in it, 8 - 6"

ILLUMINATING APPARATUS, ETC.—Continued.

64. **If on mercury float,** give (*a*) inside diameter of trough, ...; (*b*) inside depth of trough, ...; (*c*) outside diameter of float, ...; (*d*) depth of float, ...; (*e*) weight of mercury required, in pounds, ...; (*f*) how often mercury is renewed? .....

65. **If on balls,** (*a*) describe the construction of the ball-raceways, whether they are flat surface or semicircular or V grooves, ...; (*b*) is a cage used to separate balls? .....; (*c*) state number of balls, ...; (*d*) diameter of balls, ...

66. Clock cord or chain, kind, Clock cord; size, $\frac{1}{4}$"; length, 300 ft.; how led, From clock to weight box; diam. and length of clock drum, 10"

67. Length and inside dimensions of drop tube or weight box, 10" x 10" - 40 ft.; clock weight, 160 pounds.

68. Length of time clock will run after one winding, 5 hours

69. Does clock drive apparatus while being rewound? .....

70. How is the machinery protected? Brass case glass doors

71. How regulated? Governor - fan

72. Describe the pedestal, Cast iron

73. Lens protector—Is there one? Yes; kind, Linen

74. Draft tube leading into ventilator ball—Of what material, diameter, and how fitted and connected with damper tube when in place, Iron. 3" - hanging from roof

75. **If colored light,** (*a*) how is the color produced? .....

(*b*) state where colored glass is attached, if to illuminating apparatus or to lantern, ...

76. If colored glass is inside of illuminating apparatus, describe its form, ...

77. Red sectors—Between what bearings, true (from seaward), ...

LAMPS, BURNERS, ETC.

I.O.V. 55 mm.

78. Description of lamp: (*a*) give order, Type A; (*b*) kind of illuminant, Kerosene

(*c*) intensity in English candles, 1,500

If oil, or oil vapor:

(*a*) number of wicks, or mantels, to burner, _____;

(*b*) diameter of outside wick, _____; (*c*) diameter of mantel, _____;

(*d*) if more than one mantel, also diameter of circumscribing circle, _____

If gaslight:

(*e*) state kind, _____; (*f*) number of burners, if more than one burner in group, _____; (*g*) kind of burner, _____;

(*h*) candlepower per burner, _____; (*i*) total candlepower of group, _____;

(*j*) size of burner in cubic feet of gas per hour, _____;

(*k*) consumption of gas per hour, _____ cubic feet; (*l*) how is gas obtained?

_____

If gas is generated at station:

(*m*) describe generator, _____;

(*n*) state name of maker, _____;

(*o*) date of pattern, _____; (*p*) maximum capacity per hour, _____ cubic feet.

If compressed gas is used:

(*q*) describe container and give number in service, _____; spare _____;

(*r*) capacity, _____ cubic feet of free gas; (*s*) to what pressure charged, _____ lbs.; (*t*) how is supply renewed? _____;

(*u*) if by substitution of full for empty container, at what intervals? _____

_____

79. Number of spare lamps at station, 2

80. Number of spare lamp burners at station, 2

CLOSETS IN TOWER.

81. How fitted and used, None

OIL HOUSE OR ROOM.

82. Describe (*a*) where placed and how fitted, Near end of covered way about 60 ft. S. from dwelling

(*b*) inside dimensions, ; (*c*) materials of which built, Brick;

(*d*) capacity ~~in gallons~~, ~~9-239 gal.--2-2,040 gal. tanks for Kerosene in bulk~~

CLOSETS AND STOREROOMS.

83. Where placed, how fitted and used, About 10 ft. S. of dwelling, used for storing tools, etc.

84. Damp or dry, suited or unsuited to the purpose for which they were designed, Dry and suitable

FOG SIGNAL.

85. Kind and character of apparatus, Type 425 Tyfon

86. How much time is required to sound the signal? ; how long may the signal sound its characteristic with the quantity of air stored under pressure? 10 mins.

87. Characteristic:

If whistle, trumpet, or siren:				If bell:			
Blast	*Silent*	*Blast*	*Silent*		*Silent*		*Silent*
3 *sec.*	27 *sec.*	3 *sec.*	27 *sec.*	2 *strokes*	18 *sec.*	2 *strokes*	18 *sec.*

88. What parts of the fog-signal machinery are in duplicate? Spare equalizing spring for bell. Duplicate engines and compressors

89. Location, with reference to lighthouse, to a particular danger or channel, or to the special object for which established,

90. Distance and direction, true, from lighthouse, Connected

91. Water supply for it, Salt water for cooling stored in wooden tank outside of signal house

92. How is it reached from the lighthouse? Covered way

FOG SIGNAL—Continued.

93. Description of fog-signal building or buildings, White pyramidal bell tower surmounting oil stone tower

94. **If a bell,** state (*a*) weight, 1,200 lbs.; (*b*) metal, Bell metal; (*c*) diameter, 3 ft.; (*d*) height, 2' 6"; (*e*) if struck by clockwork, state time it will run with one winding, 3½ hours; (*f*) maker and date, Not known; (*g*) weights for operating, ____ lbs.

95. **If a steam signal,** describe boiler: (*a*) type, ____; (*b*) length, ____; (*c*) diameter, ____; (*d*) horsepower, ____; (*e*) maker and date, ____

(*f*) Is there a heater? ____; what kind? ____; what size? ____; how much does its use reduce the time of starting the fog signal? ____

96. **If a steam engine is used:** (*a*) kind, ____; (*b*) number of revolutions per minute, ____; (*c*) diameter of cylinder, ____; (*d*) stroke of piston, ____; (*e*) horsepower, ____; (*f*) maker and date, ____

97. **If internal combustion engines are used:** (*a*) kind of engine, Oil Diesel; (*b*) maker, Venn-Severin Co., Chicago; (*c*) date, 1932; (*d*) nominal size, ____; (*e*) horsepower, 20; (*f*) fuel used, Kerosene; (*g*) how started, Compressed air; (*h*) kind of compressor, Single vertical; (*i*) maker and date, Gardiner Denver 12 x H20 - 64498 64499

State if compressor is on same bed and ~~geared~~ with engine, on same shaft, or both pistons on same rod, Yes; if geared or belt-driven, state ratio, ---

Describe compressor machinery, (*a*) diameter of cylinder, 6"; (*b*) stroke of piston, 7"; (*c*) number of revolutions per minute, 630; (*d*) character and size of air-inlet valves, 1¾"; (*e*) kind of unloader, Automatic (*f*) diameter of delivery pipe, 4"

FOG SIGNAL—Continued.

98. (*a*) Number air receivers, 4; (*b*) diameter, 36"; (*c*) height, 7'; (*d*) capacity cubic feet, each, 250; (*e*) pressure in each, 50#; (*f*) make of reducing valve, if used, No; (*g*) remarks,

99. **If whistle, trumpet, or siren,** pressure at which blown, 50 lbs. by gauge

100. Diameter of whistle, ; height, ; distance between orifice and edge of whistle, ; single tone, ; chime,

101. **If disk or cylindrical siren,** ; diameter of revolving part, ; when made, ; by whom made, ; number, width, and length of ports, ; revolutions per minute, 2,500; type of governor, ; condition of revolving part, Type 425 mm. Tyfon

102. **If Daboll trumpet:** Class, ; reed: length, ; breadth, ; thickness at base, ; thickness at tip,

103. **If trumpet:** Length, ; diameters, ; material,

104. Timing device, Crosby Clocks

105. Height of whistle or trumpet above mean high water, 60 ft.

106. Direction, *true*, in which trumpet points, South

107. Pressure and recording gauge,

DWELLINGS FOR KEEPERS.

108. Location with reference to lighthouse tower, About 200 ft. N. W.

109. Coloring, White--lead colored trimmings

110. Materials of which built, Wood

111. Number of dwellings, Double-Single 4 each Double; number of rooms in each, Single--7 rooms

112. Describe heating plant, Hot water heater in single house only

113. Number of keepers and assistants in each dwelling, Keeper--2 assistants

114. Which keepers are furnished quarters? All

115. Which keepers are not furnished quarters? ---

116. Outhouses, 3; coloring, White

117. Paths or walks on the premises, Walks

118. Area susceptible of profitable cultivation, None; area cultivated or prepared for cultivation, None

DWELLINGS FOR KEEPERS—Continued.

119. Character of adjacent surrounding country—Soil, sandy, clay, marsh, swamp, wood, fast ground, or shifting sands, Rocky

120. Furnish following data for stoves, kitchen sink, sink pump, and lamps in quarters:

Articles.	Keeper.	1st Assistant Keeper.	2d Assistant Keeper.	3d Assistant Keeper.
Stove, maker,	Portland S. F. Co.	"	"	
Stove, size,	Queen Atlantic--all quarters			
Sink, maker,	---	---	---	
Sink, size,	---	---	---	
Pump, maker,	Douglass	"	"	
Pump, size,	#2	"	"	
LAMPS. (Give name, number, and make of all lamps in such set of quarters.)				

WATER FOR FOG SIGNAL, DRINKING, ETC.

121. How procured, Rain water from roof of dwellings

122. Quality, Good

123. Quantity ample or not for the station at all seasons of the year, Ample

124. Liable or not to be injured by the inroads of storm tides and seas, No

125. If rain water in tanks or cisterns, what precautions have been taken to insure its purity? Cistern cleaned frequently

126. Capacity of tanks or cisterns, and where placed, In cellar of dwellings 2,000 gals. each In cellar of storehouse a tank of wood 10,000 gals. capacity--water pumped from sea--cooling purposes only--located on north side of signal house

127. Tanks or cisterns—Of what material made, Brick

WATER FOR FOG SIGNAL, DRINKING, ETC.—Continued.

128. Is there a distilling apparatus at the station? No

Name of maker and date, ;

capacity, ; when installed, ; condition, ;

efficiency,

129. If from a well, describe and give depth,

130. Diameter, ; lined or not,

131. Water obtained by pump or bucket, Pump; what power is used?

132. Distance from keeper's dwelling,

HEALTHFULNESS OF STATION.

133. General opinion in regard to the healthfulness of the light station and vicinity, Good

134. Diseases—What are most prevalent at the station and in the vicinity? None

135. Do they prevail at particular seasons of the year, or not? No

136. Are there any local causes, such as swamps, marshes, etc., in the immediate vicinity of the lighthouse which are likely to be the cause of these diseases? No

137. Would draining or other artificial means employed on the lighthouse premises be likely to improve the sanitary condition of the light station? No

BOATS.

138. Furnish following data for each boat at station:

Number.	Type.	Length.	Width.	When Built.	Date Received at Station.	Is Boat Fitted with Sails?	Suited to Work Performed.
60	Power Sq. Stern	20' 4"	6'	1910	June 1910	Yes	Yes
150	Dory	13'	4' 6"	--	--	---	---
164	Peapod	16'	4' 10"	1931			

BOATS—Continued.

139. **If power boat,** kind of engine, Mianus; horsepower, 7½ H. P.;

maker of engine, shop number, and date, Mianus Engine Co.

(*a*) type, size, number, and maker's name of spare coil,

(*b*) type, size, number, and maker's name of magneto,

(*c*) type and number of batteries, Dry

(*d*) propeller wheel, diameter, 18"; pitch, 20

140. Where are boats kept at station? in boat house

LANDING, WHARF, BOATHOUSE, AND ROAD TO THE LIGHTHOUSE.

141. Description, Boat house and boat slip

Path and walk to light house

142. Distance and direction of landing from lighthouse, about 300 ft. N. W.

143. Hoisting engine, what kind? Novo gasoline hoister Single drum--4 cyl.;

diameter of cylinder, ; number of revolutions per minute, ;

stroke, ; kind of boiler, ;

maker and date,

144. General Remarks:

9-239 and 2-2,040 gal. tanks for kerosene in bulk